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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,794	08/14/2000	Soichiro Kawakami	839.425	1438

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EXAMINER

WEINER, LAURA S

ART UNIT PAPER NUMBER

1745

DATE MAILED: 03/18/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-9

Office Action Summary

Application No.

09/554,794

Applicant(s)

KAWAKAMI ET AL.

Examiner

Laura S Weiner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract should not contain “()”.
Correction is required. See MPEP § 608.01(b).

Double Patenting

2. Claim 36 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 10.
When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

3. Claims 24-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Claim 24 is rejected because Pb, Ga, Tl, Be, rare earth elements or metalloide elements are not enabled because these elements are not transition metal elements (A) and are not defined as X in claim 1.

Claim 27 is rejected because only rare earth elements La and Ce and metalloide elements B, C, Si, P, Ge and Sb are enabled.

Claims 28-29 are rejected because only Bi and Al are enabled.

Claims 30-35 are rejected because these claims list elements that are not enabled.

4. Claims 1-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected because it is unclear what is meant by "wherein in said".

Claims 2-6 are rejected because it is unclear what is meant by "has a peak appeared". It is unclear what is meant by "in X-ray diffraction using".

Claims 24-26 are rejected because Pb, Ga, Tl, Be, rare earth elements or metalloide elements are not transition metal elements (A) and are not defined as X in claim 1, therefore do not further limit claim 1 and the SnAX alloy does not allow for these above elements.

Claim 27 is rejected because only rare earth elements La and Ce and metalloide elements B, C, Si, P, Ge and Sb further limit claim 1.

Claims 28-29 are rejected because only Bi and Al further limit claim 1.

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Claims 30-35 are rejected because these claims list elements that do not further limit claim 1.

Claim 39 is rejected because the claim does not further limit claim 1 from which the claim depends on. "A" or "X" does not allow for "Li".

Claim 40 is rejected because the claim does not further limit claim 1 from which the claim depends on. "A" or "X" does not allow for "S".

Claim 42 is rejected because the claim does not further limit claim 41 in which it is already implied that the material is formed on the collector. Where else would it be formed?

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

6. Claims 1, 10, 12-16, 36-38, 41-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Jacobs et al. (6,007,945).

Jacobs et al. teaches in column 3, lines 55-67, Table 1 and column 4, lines 35-40, a lithium battery comprising an anode active substance which is 55:45Ti₃Sn or 45:55Ti₂Sn or 40:60Ti₅Sn₃

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or 33:67 Ti_6Sn_5 . Jacobs et al. teaches in column 5, lines 1-27, that the average particle size was 15 μm and that the particles were mixed with petroleum coke and polyvinylidene fluoride binder, each present in the mixture in 5 wt% and the mixture was coated in 0.05 mm thickness onto one face of a copper foil. Jacobs et al. teaches that the cathode was made of LiCoO_2 . Jacobs et al. teaches in Example 2, that the lithium battery also comprises an electrolyte.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-9 are rejected under 35 U.S.C. 102(~~b~~) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jacobs et al. (6,007,945).

Jacobs et al. teaches in column 3, lines 55-67, Table 1 and column 4, lines 35-40, a lithium battery comprising an anode active substance which is 55:45 Ti_3Sn or 45:55 Ti_2Sn or 40:60 Ti_5Sn_3 or 33:67 Ti_6Sn_5 . Jacobs et al. teaches in column 5, lines 1-27, that the average particle size was 15 μm and that the particles were mixed with petroleum coke and polyvinylidene fluoride binder, each present in the mixture in 5 wt% and the mixture was coated in 0.05 mm thickness onto one face of a copper foil. Jacobs et al. teaches that the cathode was made of LiCoO_2 . Jacobs et al. teaches in Example 2, that the lithium battery also comprises an electrolyte.

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Since Jacobs et al. teaches the same anode electrode material comprising a SnAX alloy which comprises a transition metal element then inherently the same SnAX alloy exhibiting a peak in a range of 25-50 degrees would have the same half width must also be obtained and having the same crystallite size of 100-500 Å would also be obtained.

In addition, the presently claimed half width property and the same crystallite size of 100-500 Å would have obviously have been present once the Jacobs et al. product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

9. Claims 1, 10-22, 24-39, 41-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Idota et al. (5,780,181).

Idota et al. teaches in column 11, lines 30-51, a nonaqueous secondary battery comprising a Li-containing manganese oxide spinel cathode material and an electrolyte. Idota et al. teaches in columns 5-6, compounds comprising Sn for the anode material such as $\text{SnPb}_{0.01}\text{O}_{1.02}$, $\text{SnP}_{0.9}\text{Pb}_{0.1}\text{O}_{3.45}$, etc. Idota et al. teaches in column 7, lines 42-52, that the negative electrode material may contain various compounds such as group 1 elements such as Li, transition metals, lanthanoid metals, the group 2 elements such as Be, Mg, Ca, Sr, etc. and the group 17 elements such as F. Idota et al. teaches in column 22, lines 20-30, that the average particle size of the anode material was 5 µm. Idota et al. teaches in column 29, Example C-1, that the negative electrode comprises 82% of negative electrode material, 8% flake graphite and 4% acetylene black as conducting agents and 6% of polyvinylidene fluoride as binder. Idota et al. teaches in

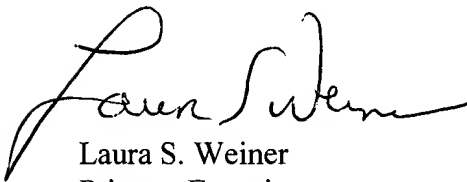
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column 16, lines 43-58, that the collector for the active material may be made of any electron-conducting substance which undergoes no chemical change in an assembled battery.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Weiner whose telephone number is (703) 308-4396. The examiner works a flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gabrielle Brouillette, can be reached at (703) 308-0756. The official fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in cursive script, appearing to read "Laura S. Weiner".

Laura S. Weiner
Primary Examiner
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March 13, 2002